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ABSTRACT

A study of 24 handicapped students functioning on or below grade level was conducted to examine their reading achievement in three different reading programs. The students were placed in a remedial reading program, a reading program in a resource room, or a regular reading class depending on past grade achievements and recommendations of former teachers and child study teams. Pretests and posttests were administered to measure reading achievement. Results showed that there was no significant difference in gain among the three groups, indicating that handicapped students who are mainstreamed into regular classes fare as well as their counterparts in self-contained classes. Further, the stigma of being members of special education classes is removed when students are mainstreamed. (TJ)

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READING ACHIEVEMENT OF CLASSIFIED STUDENTS GRADES 7-8

by

Marcia M. Bartolf

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Chapter One INTRODUCTION TO STUDY

INTRODUCTION

This research report is an attempt to compare the reading achievement among classified students found in regular reading classes, resource rooms, and remedial reading classes of a middle school.

STATEMENT OF THE PROBLEM

The purpose of this study was to examine the reading achievements of classified students in three different types of reading programs.

THE SIGNIFICANCE OF THE PROBLEM

The resource room program now in practice at Carl Sandburg Middle School in Matawan, New Jersey, is currently a pilot program. This year was the first time that there were no self-contained classes for the handicapped at the school. Instead, these students were grouped according to their academic ability and not by their respective handicaps. It was necessary to examine student growth in this new type of classroom setting.

THE PURPOSES OF THE STUDY

Ability grouping is rather new to the special education field, and the research done in this area is limited. The findings of this research project may help in providing data for future programming within the entire school district.

ASSUMPTIONS AND LIMITATIONS

It was assumed that the Woodcock Reading Mastery Tests was a reliable and valid measure of student ability. For the purpose of this study it is also assumed that the reading instruction provided to these students was consistent with the appropriate levels of reading ability. The next assumption is that, in some cases, changes in the instructional setting would not result in emotional factors that would interfere with overall student performance. Finally, it was assumed that previously collected data regarding students, upon which this program was based, were accurate.

The sampling of students used in this study was small due to the fact that the program involved only classified students attending Carl Sandburg Middle School. Also, it should be noted that any test results may reflect factors other than the program structure. The limited amount of time for this study was not of sufficient length on which to make any conclusive statements or provide enough time for measurable improvement. Any conclusions reached, based upon this study must take these limitations into consideration.

DEFINITION OF TERMS

For the purpose of reader understanding, the following terms need to be defined. Reading achievement referred to the progress made by the learner in reading as measured by pre-test and post-test scores on the Woodcock Reading Mastery Tests. The students in this study who are referred to as classified had been tested, evaluated and categorized by the school's child study team, as having one of the following handicaps: emotionally disturbed, perceptually impaired, neurologically

impaired, educable mentally retarded, learning disabled, or multiply-handicapped.

The regular reading classes consisted of students functioning on grade level or higher in reading. The resource room classes consisted of students functioning on or below grade level and because of primary or secondary emotional problems, could not function within the normal classroom setting. Students who were functioning one to two grades below grade level were those that attended the remedial reading classes. In this study, the middle school referred to the program utilizing a 7-8 grade organization, which was designed to meet the needs of early adolescents.

SUMMARY

In this study, twenty-four classified students were evaluated as to their respective reading achievements attained in three different types of reading programs.

Chapter Two ANALYSIS OF PREVIOUS LITERATURE

INTRODUCTION

Included in this chapter is a review of the major research completed in the areas of mainstreaming and the factors affecting the reading achievement of handicapped students.

ORGANIZATION OF THE CHAPTER

The program upon which this study is based is so new that recent research is scarce. Therefore, it has been divided into three major areas: early special education groupings, recent legislation regarding mainstreaming policies, and the future implications of the new mainstreaming law.

Early Special Education Groupings For The Handicapped

Since its beginning, the goal of special education has been to improve the instruction of those children who are experiencing difficulty in the learning tasks involved in school. Prior to 1975, those students classified as handicapped were taught in small groups, usually in some infrequently visited part of the school building. The students were placed in these classes according to their disability; all retarded children classified as educable were in one room, all perceptually impaired students in another. "During the last two decades theory, practice, and public opinion have evolved significantly, resulting in a clearer understanding of individual student needs, abilities,

and rights."[1]

Recent Legislation Regarding Mainstreaming Policies

One of the most dramatic changes that has happened is the recognition that, no matter how handicapped, all children are entitled to a free and appropriate public education in the "least restrictive" environment possible.[2] Budoff feels that the trend is away from segregating those children in need of special educational services in isolated, day long programs.[3] He has found that the results of studies dealing with segregated special education classes show that, generally, handicapped children make the same or smaller gains than their counterparts in regular classes.

Folman and Budoff (1971) found that special education students feel markedly less confident about their ability when compared to their peers in regular classes. They believe that a major reason for integration would be to remove the stigma attached to a child's placement in a special education class.[4]

The Education of All Handicapped Children's Act, PL 94-142, has opened the door of public education to all handicapped students.

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[1] Susan Hasazi and Robert York, "Changing Concepts of Special Education," Teacher, Volume 95, September 1977, pp. 99-100.

[2] Diane Divoky, "Mainstreaming-Moving Special Education Out Of The Basement," Compact, Volume 10, February 1976, pp. 2-5.

[3] Milton Budoff, Comments on Providing Special Education Without Special Classes-Studies in Learning Potential (Cambridge, Massachusetts: Research Institute for Educational Problems, 1971), pp. 1-19.

[4] ibid., p. 3.

Effective as of September 1978, it involves the integration of handicapped students into regular classes to the maximum extent appropriate to their needs.[5] Mainstreaming is the educational process of returning exceptional children, who can best profit from such placement to the regular educational classroom, with all the needed supportive services provided.[6] If this cannot be fully accomplished within a regular class, the settings should be as close to normal as possible; remedial reading classes or resource rooms as opposed to a self-contained classroom. The main goal of mainstreaming is to provide a favorable and "normalized" environment for special needs children. The fundamental assumption underlying this, is that all children vary in their backgrounds, abilities, and interests; the integrated classroom is designed to provide an educational experience that attempts to be relevant to the differences.[7]

There are many factors that have brought about the new PL 94-142 law. In 1930, Gates reported that when learning to read, slow learners in comparison with average learners needed more than one repetition of a word in context before recognizing it accurately.[8] If appropriately

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[5]Alan Abeson and Jeffrey Zettel, "The End of the Quiet Revolution-The Education for all Handicapped Children's Act of 1975," Exceptional Children, Volume 44, October 1977, pp. 114-128.

[6]Jeffery Grotsky, The Concept of Mainstreaming: A Resource Guide For Regular Classroom Teachers (Harrisburg, Pennsylvania: State Department of Education, 1976), pp. 1-33.

[7]Samuel Meisels, "First Steps In Mainstreaming," Young Children, Volume 33, November 1977, pp. 4-13.

[8]Arthur Gates, As cited by Harry Singer, IQ Is and Is Not Related To Reading (Denver, Colorado: IRA Convention Paper,1973), pp.1-43.

placed, they could fit in with a regular reading class working at a slower pace. Barthelmess and Boyer (1932) found that children classified as slow learners showed a significant increase in reading skills when grouped by academic ability.[9] Wilson and Balow (1963-1964) found that in general, teachers tend to normalize instruction; to modify their teaching in order to reach the average capability of the group.[10] Therefore, if correctly placed, a handicapped child could benefit from a regular class placement. The research of Lloyd M. Dunn in 1968, showed that mildly handicapped children do better in regular classes than in special education classes. He feels that changes occuring in special education are healthy changes for education in general.[11]

Future Implications Of The New Mainstreaming Law

Bennett and Ogletree (1972) studied the effects of homogeneous ability grouping versus heterogeneous grouping on the reading achievement of eighteen slow learners in the first grade.[12] The two matched groups, consisting of nine students each were taught by the

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[9]H. Barthelmess and P. Boyer, "An Evaluation Of Ability Grouping," Journal of Educational Research, Volume 45, 1932, pp. 284-294.

[10]op. cit., p. 289.

[11]Lloyd M. Dunn, As cited by Martin Tonn, "The Case For Keeping Mentally Retarded Children In Your Regular Classrooms," American School Board Journal, Volume 161, August 1974, pp. 45-46.

[12]Beverly Bennett and Earl Ogletree, Ability Grouping and Reading Achievement by Slow Learners (Chicago State University, 1972), pp. 1-6.

Betts and Welch's basal reading method. Using a pre-test and a post-test design, there were no significant differences found in the reading achievement of the two groups.

Cartwright and McIntosh (1972) studied the effects of three different grouping procedures - heterogeneous, homogeneous, and flexible, on the reading achievement of two hundred and sixty disadvantaged primary school children.[13] At the end of the two year period, there were no significant differences in the reading achievement among the three groups.

Larry Molloy (1974) researched the basic theory that handicapped children should be placed where they can obtain the best education at the least distance away from the mainstream of society.[14] Citing the case of The Pennsylvania Association for Retarded Children vs. the Commonwealth of Pennsylvania, he explains that the law clearly states that it is more desirable to educate handicapped children in a program most like that provided for the nonhandicapped. He continues to further cite the case in New Orleans of Lebanks vs. Spears where it was found that among alternative programs, placement in regular public school classes, with the appropriate support services, is preferable to placement in special classes. He states that the impetus of these court decisions is away from the restrictive environment and toward the less

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[13] ibid., p. 3.

[14] Larry Molloy, One Out Of Ten: School Planning For The Handicapped (New York, N.Y., Educational Facilities Laboratories, Inc., 1974), pp. 1-26.

restrictive mainstreaming facilities most like those provided for normal children.[15]

The cascade system, first introduced in 1962 by Maynard Reynolds, is one model for special education delivery which provides a wide variety of services in a number of alternative settings.[16] The basis of the system is that the greatest number of handicapped children can be absorbed into ordinary schools with little change in existing programs. The system as is outlined in a diagram on the following page was adopted in 1974 by The Council for Exceptional Children as part of its policy statement for exceptional children.

Krug and Haring in March 1973, conducted a study using forty-eight elementary age children who were classified as mentally retarded.[17] The students were selected randomly and divided into two matched groups; experimental and control. They were placed in four classes with twelve students in each class. The object of this study was to initiate an individualized instructional program that would facilitate the return of these special education students to their regular classrooms. After one year, thirteen of these students from the experimental group were put in regular classes. The study showed that there are in special education classes, a number of children who are capable of making normal growth in

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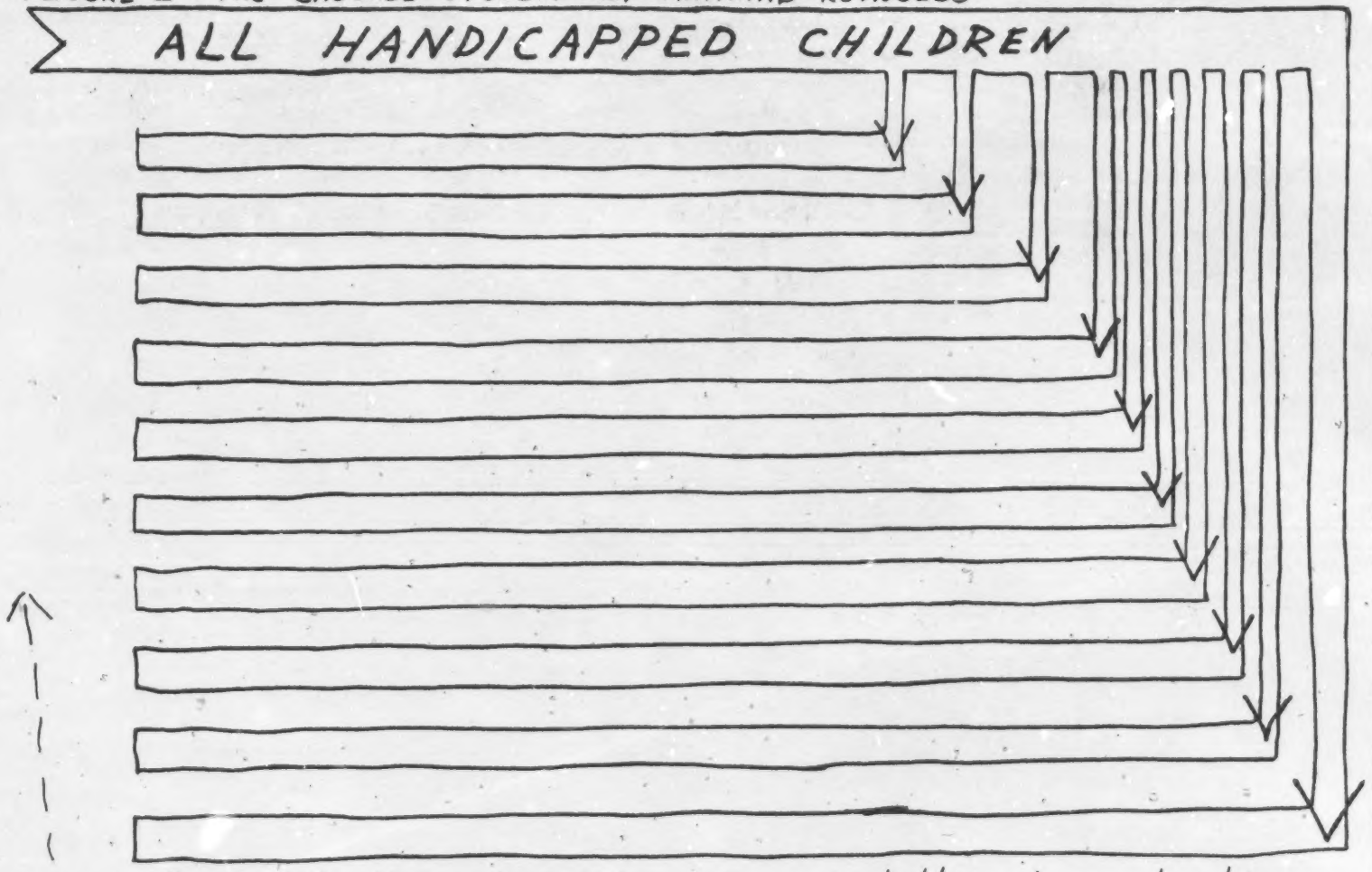
[15] ibid., p. 14.

[16] Larry Molloy, "Law and The Handicapped," Science and Children, Volume 13, March 1976, pp. 7-10.

[17] Norris Haring and David Krug, "Placement In A Regular Program; Procedures and Results," Exceptional Children, Volume 41, March 1975, pp. 413-417.

FIGURE 1 - THE CASCADE SYSTEM - BY MAYNARD REYNOLDS



a regular placement. Furthermore, after a one year follow-up of the study to determine the adaptation of the thirteen students to the regular program, results showed that a high percentage of children could acquire the basic skills at a rate to allow regular class placement.

Thomas McDonnell (1975) studied the gains in reading achievement between students in a resource room, a remedial reading group ard a regular classroom.[18] His study involved forty-nine elementary school boys who were tested using the Slosson Intelligence Test, the Wechsler Scale for Children, the Primary Mental Abilities Vocabulary Subtests, and the Gates MacGinite Reading Tests. When a comparison was made of raw scores to standard scores, the gains were significant in the vocabulary and comprehension grade equivalent scores for all of the groups. Yet there appeared to be no significant differences between the treatments for the total scores.

In 1975, Robert Gerke investigated the effects of two types of learning environments on the self-concept and reading vocabulary of sixty-one educable mentally retarded and fifty-seven emotionally disturbed children.[19] The two environments were the traditionally segregated special education classroom and the resource room used in conjunction with the integration of these students in regular classes.

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[18]Thomas McDonnell, A Comparison of A Resource Room, A Remedial Reading Group and A Regular Classroom (St. Louis, Missouri, Unpublished Doctoral Dissertation,1975), pp. 1-117.

[19]Robert Gerke, The Effects of Mainstreaming On The Self Concept and Reading Achievement Of Exceptional Children At The Elementary Level (Easton, Pennsylvania, Unpublished Doctoral Dissertation, 1975), pp. 1-105.

No significant differences in either group were noted in terms of reading vocabulary or self-concept.

Ideally, the integrated classroom exposure will help children live their lives more fully. Exceptional students are more similar to, than different from other students. They generally progress through the same developmental processes as normal students.[20] However, the process may be slower or inconsistent at the same developmental level.

Artley, Haden and Veralee feel that educators should eliminate the categorical concepts of learning or reading disability, and instead emphasize the solving of the child's educational problem.[21] No matter what label is applied to a child, he or she knows that someone has made a judgement about him. Since most of the labels applied to children are negative in nature, indicating a deficiency, the self image of the child is affected.[22] The students can sense that in the eyes of their teachers, parents and peers, they are not as good as they should be. Approaching the task of learning to read from such a negative perspective will lead only to continual failure.

Winton Buddington advocates the placing of children at the

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[20]Jeffery Grotsky, The Concept Of Mainstreaming: A Resource Guide For Regular Classroom Teachers (Harrisburg, Pennsylvania: State Department of Education, 1976), pp. 1-33.

[21]A. Sterl Artley et. al., "A Current Dilemma: Reading Disability or Learning Disability," The Reading Teacher, Volume 29, January 1976, pp. 361-366.

[22]Bruce Gutknecht, "The Label Syndrome," Language Arts, Volume 53, April 1976, pp. 419-421.

correct achievement and expectancy level.[23] He feels that it is imperative to encourage the child to learn at his own rate and promote individual learning. Some recent writers (Sent and Grossman, 1975) have also suggested the abolition of labeling reading and learning disabilities and instead to think of them as children with special problems.[24]

The integration would enable students with minimal educational and behavioral disturbances to participate in the normal classroom to prepare them to take their place in society. More children will have their needs met within the classroom so that fewer will require outside help.[25]

Adopted at the annual May 1976 convention of the International Reading Association in Anaheim, California, was a resolution by the learning disability consultants to work together with reading specialists- "Let's not keep the reading people out of the special education jobs."[26]

At the White House Conference on Handicapped Individuals in May of 1976, it was stated, "Our bodies make us disabled, but society makes

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[23]"Improving Reading Programs For Emotionally Handicapped Children-Proceeding Highlights Of A Special Study Institute," (Medina, New York, May 1971) ED 184622, pp. 1-78.

[24]Sent and Grossman, As cited by Albert Harris, "Ten Years of Progress In Remedial Reading", Journal Of Reading, Volume 21, October 1977, pp. 29-35.

[25]ibid., p. 31.

[26]Pat Lane, "Let's Deal Straight From The Deck". Journal Of Learning Disabilities, Volume 9, August-September 1976, pp. 403-405.

us handicapped."[27] Dr. J. Klein, Director of Educational Services, OCD, stated that, "If we want children to live in the real world, it is important for normal and handicapped children to learn to accept, appreciate and understand each other."[28]

SUMMARY

This search of literature has incorporated many facets of special education. As is evident from this chapter, there is little research dealing directly with the reading achievement of classified students in the mainstream classes. The system is so new that it is presently still in the trial paeriod.

Research has shown a change from the early beliefs that special education students should be taught in separate classes. In most cases, this has been shown to have little effect on academic achievement and a negative effect on self-soncept. Recent studies show that handicapped students benefit from placement in regular classes. It appears that all children learn how to better accept each other as individuals in the integrated classroom though there are no significant differences that appear in academic achievement.

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[27] Jane Hauser Hoyt, "Beyond The Handicap", American Education, Volume 13, April 1977, pp. 25-26.

[28] Mary Glockner, Integrating Handicapped Children Into Regular Classrooms (Urbana, Illinois, ERIC Clearinghouse, June 1973), pp. 1-26. ED 081 500.

Chapter Three DESIGN OF THE STUDY

INTRODUCTION

In order to discover information concerning reading achievement in three different programs for special education students, a pre-test and post-test approach was utilized. The exact plan and nature of this study is reviewed in this chapter.

PROCEDURES USED

Twenty-four students were selected to participate in this study. Initially, these students were classified to be a part of the resource room program on the basis of previous aptitude testing and IQ scores, by one of the child study teams of the Old Bridge, New Jersey, township school system. The students were randomly selected within each of the three reading programs, with four seventh and four eighth graders from each of the three classes. Each group contained both males and females.

The pre-testing took place during the week of October 9, 1978. The instruction given within the individual class settings was given in a variety of ways appropriate to that particular type of grouping. In the regular reading classes, the students use a basal series as the core of the program. The remedial classes do not use only one basal text to work from. Much of the work is done through a variety of teacher-made and supplementary reading materials. In the resource room, no basal text is used. A variety of skill booklets, workbooks, trade and textbooks are utilized. The program is individualized to each student's particular levels because of the small class sizes, and remediation is

conducted through a variety of teacher-made materials. As the post-testing was completed during the week of February 5, 1979, a period of approximately fifteen weeks was allotted for instruction.

SOURCES OF DATA

All students included in this study had previously been classified as handicapped by the district Child Study Team. As stated by Mrs. R. Spindler, Learning Disability Teacher Consultant of the team, "The children were tested by a variety of instruments depending upon the types of problems each individual exhibited." From recommendations by former teachers, the child study teams and past grade achievements, the students were then placed in either the remedial reading program, the reading program in the resource room, or the regular reading class. The Woodcock Reading Mastery Tests were used to determine reading levels on those students selected to participate in the program.

METHODS OF GATHERING DATA

The students were all tested by this researcher. They were given both forms of the test within the resource room reading class. All students willingly participated in the testing. There were no special instructional methods used by any of the teachers working with the twenty-four students. The post-testing was completed in the same manner and situation.

DESCRIPTION OF DATA-GATHERING INSTRUMENTS USED

The Woodcock Reading Mastery Tests Forms A and B were

administered to obtain reading scores.[1] In order to determine the areas in which achievement was the greatest or the least, all subtests were administered. The five subtests include: Letter Identification, Word Identification, Word Attack, Word Comprehension, and Passage Comprehension. The Woodcock Reading Mastery Tests, according to Houck and Harris, serve effectively as a screening device for identifyling children who are experiencing reading difficulties.[2]

Due to its individual testing procedure, it was used by this researcher. Therefore, the readers who already had a disability in this area, were not faced with a written test in which they most likely experienced failure using at a previous time. In addition, it exposes the child to only a few items at a time which prevents immediate frustration. As the test presents items varying in difficulty within each page, the student does not sense a feeling of continual disappointment at not being able to answer the questions correctly.

SUMMARY

The Woodcock Reading Mastery Tests Forms A and B were administered on a pre-test and post-test basis. The twenty-four students in this study were all classified by the Child Study Team. Instruction was completed within a fifteen week period.

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[1] Richard Woodcock, Woodcock Reading Mastery Tests Forms A and B (Circle Pines, Minn.: American Guidance Service, Inc., 1973).

[2] Cherry Houck and Larry A. Harris, "Woodcock Reading Mastery Tests," Journal of School Psychology 14:77-79, (Spring 1976).

Chapter Four PRESENTATION AND ANALYSIS OF DATA

INTRODUCTION

The Woodcock Reading Mastery Tests, forms A and B, were administered on a pre-test and post-test basis. In this chapter, test scores are interpreted as to the gains made by the groups of students in the resource room, the remedial reading class, and the regular reading class.

DATA

In order to determine whether significant gains were made on the total scores, the pre-test and post-test mastery scores were examined. Figure 2 shows that no significant gains for the group of students having reading in the resource room were made.

Figure 2 Pre-test and Post-test Results - Resource Room Program - Woodcock Test Form A and B

	M	σ	CR	P
Pre-test	109.5	13.42	1.16	$.75_{NS}$
Post-test	117.1	10.93		

NS - The critical ratio of 1.16 is not significant.

Similarly, in examining the scores for the students involved in the remedial reading program, the results also revealed no significant gains. This can be seen in Figure 3, which is presented on the following page.

Figure 3 Pre-test and Post-test Results - Remedial Reading Program - Woodcock Test Form A and B

	M	σ	CR	P
Pre-test	128	8.31	.54	$.41_{ns}$
Post-test	125	12.03		

NS - The critical ratio of .54 is not significant.

The critical ratio of .86 is not significant for the group of students involved in the reading program in the regular classes at the middle school. Figure 4 illustrates this fact.

Figure 4 Pre-test and Post-test Results - Regular Reading Program - Woodcock Test Form A and B

	M	σ	CR	P
Pre-test	133.75	9.82	.86	$.61_{NS}$
Post-test	137.75	7.32		

NS - The critical ratio of .86 is not significant.

As is evidenced through examining these tables, there are no significant differences in reading achievement of classified students in the resource room, the remedial reading class, or the regular reading class at the middle school level. Therefore, the null hypothesis, as stated in chapter one of this project, is accepted.

These results may be due to the limited time factor, as the time between the pre-testing and post-testing sessions was only fifteen weeks. In addition, the degree to which the fineness that the testing instrument measures, may not have been accurate enough in light of the fact that the participants in this study were all classified students;

experiencing difficulty in many other areas of learning as well.

Although significant gains were not shown among the three groups, each of the subtests of the Woodcock Reading Mastery Tests were examined as to the increase or decrease in the individual student's raw score for each of the three groups involved in this study. Though not significant, the increases in the raw scores on the subtest, Letter Identification, are revealed in Figure 5. The highest gains were obtained by the students in the regular reading class. The gains on this particular subtest for those in the remedial reading class were very limited.

In examining Figure 6, the largest gains obtained in the Word Identification subtest was again made by the students in the resource room; the highest gain of 16 points was also made by a student in this program. Minimal gains were made by the other two groups of students participating in the study-with a decrease of 9 points made by a student in the remedial reading class.

In Figure 7, the Word Attack subtest was analyzed. The students in the resource room scored higher than the students in the other two groups. It should be noted that students in the remedial reading class received both the greatest increase and decrease in their individual scores.

The results of the subtest, Word Comprehension, are revealed in Figure 8. The greatest gains in this part were made by students involved in the reading program in the regular reading classes. The gains made by the group of students in the resource room was not significant. On an individual basis, the largest gain of 18 points was obtained by a student in the regular reading class. The greatest

Figure 5- Difference Of Pre-test and Post-test Raw Scores Of Individuals - Woodcock Subtest Letter Identification

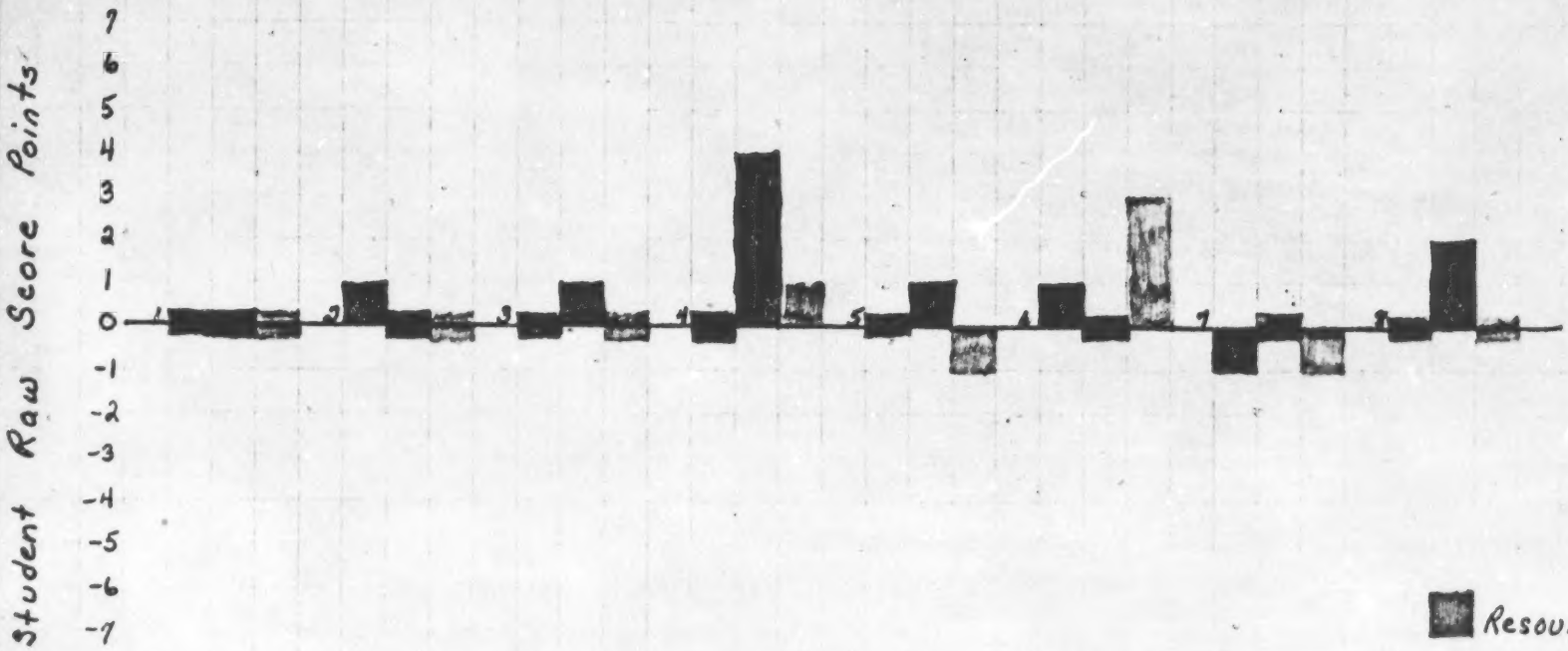

Figure 5- Difference Of Pre-test and Post-test Raw Scores Of Individuals - Woodcock Subtest Letter Identification

Figure 6- Difference Of Pre-test and Post-test Raw Scores Of Individuals - Woodcock Subtest Word Identification

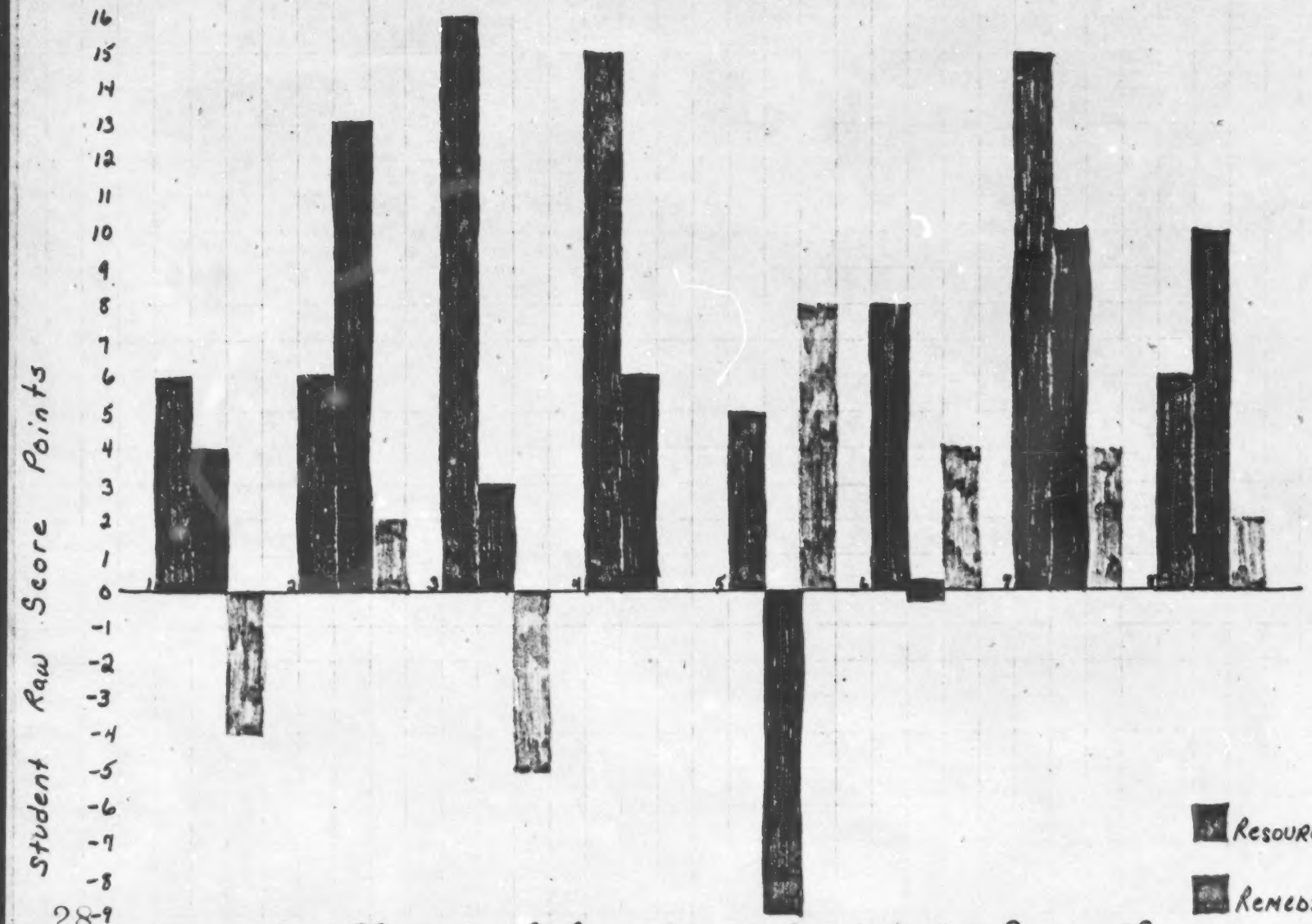

Figure 6- Difference Of Pre-test and Post-test Raw Scores Of Individuals - Woodcock Subtest Word Identification

Figure 7- Difference Of Pre-test and Post-test Raw Scores of Individuals- Woodcock Subtest Word Attack

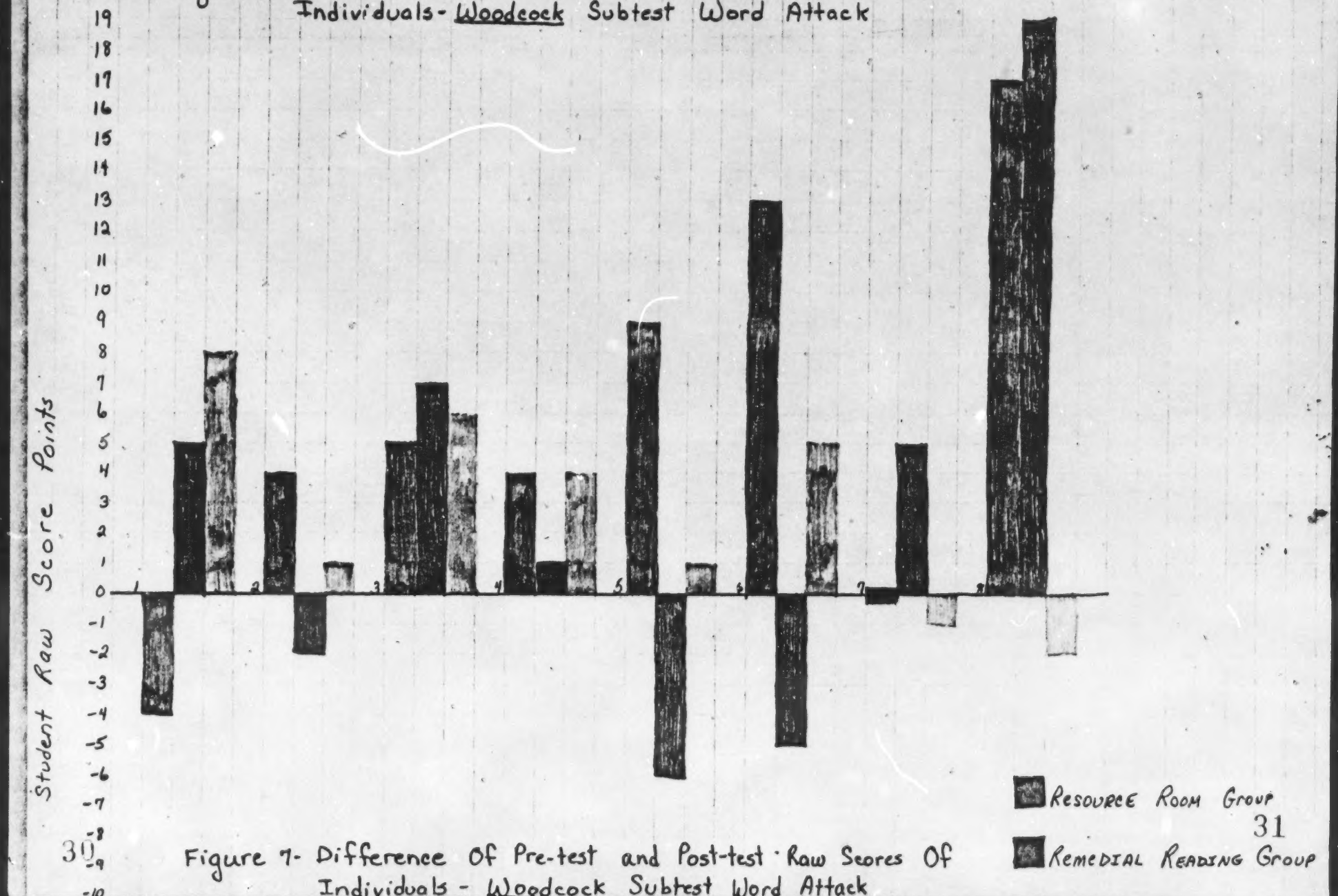

Figure 7- Difference Of Pre-test and Post-test Raw Scores Of Individuals - Woodcock Subtest Word Attack

Figure 8 - Difference Of Pre-test and Post-test Raw Scores Of Individuals - Woodcock Subtest Word Comprehension

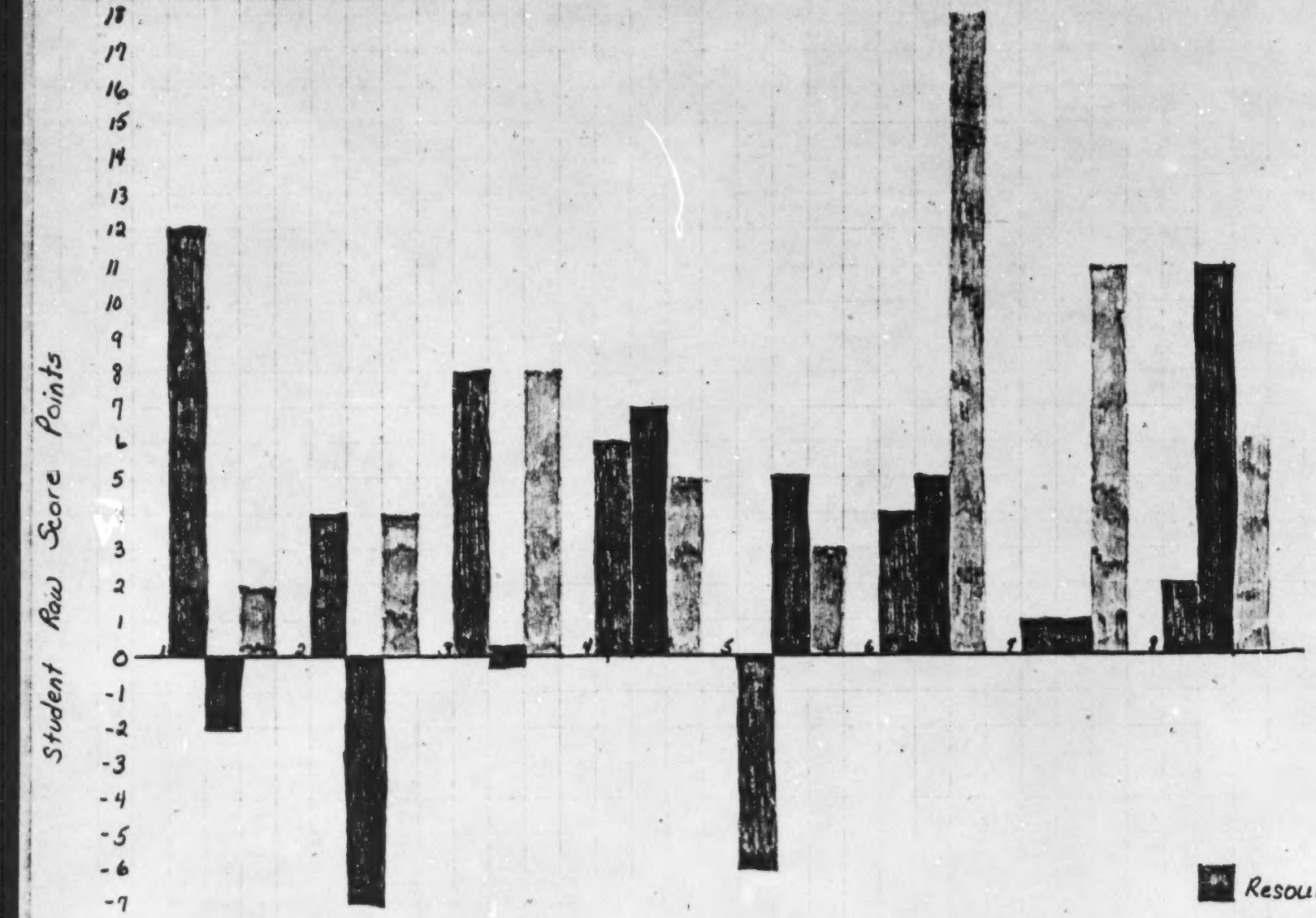

Figure 8 - Difference Of Pre-test and Post-test Raw Scores Of Individuals - Woodcock Subtest Word Comprehension

decrease of 7 points was obtained by a student in the remedial reading class.

A gain was achieved by students in the remedial reading class for the subtest, Passage Comprehension. This can be seen in Figure 9. The gain was quite small for those students in the regular reading classes. In addition, the students in the resource room made a very limited gain. On an individual basis, a student in the remedial reading class achieved a gain of 16 points. In addition, the greatest decrease in points was made by a student in the regular reading class.

SUMMARY

Of the three groups involved in this study, no one group showed any significant gains. All of the five subtests of the Woodcock Reading Mastery Tests for each student was examined individually to determine differences in the raw scores between pre-testing and post-testing.

Figure 9 - Difference Of Pre-test and Post-test Raw Scores Of Individuals - Woodcock Subtest Passage Comprehension

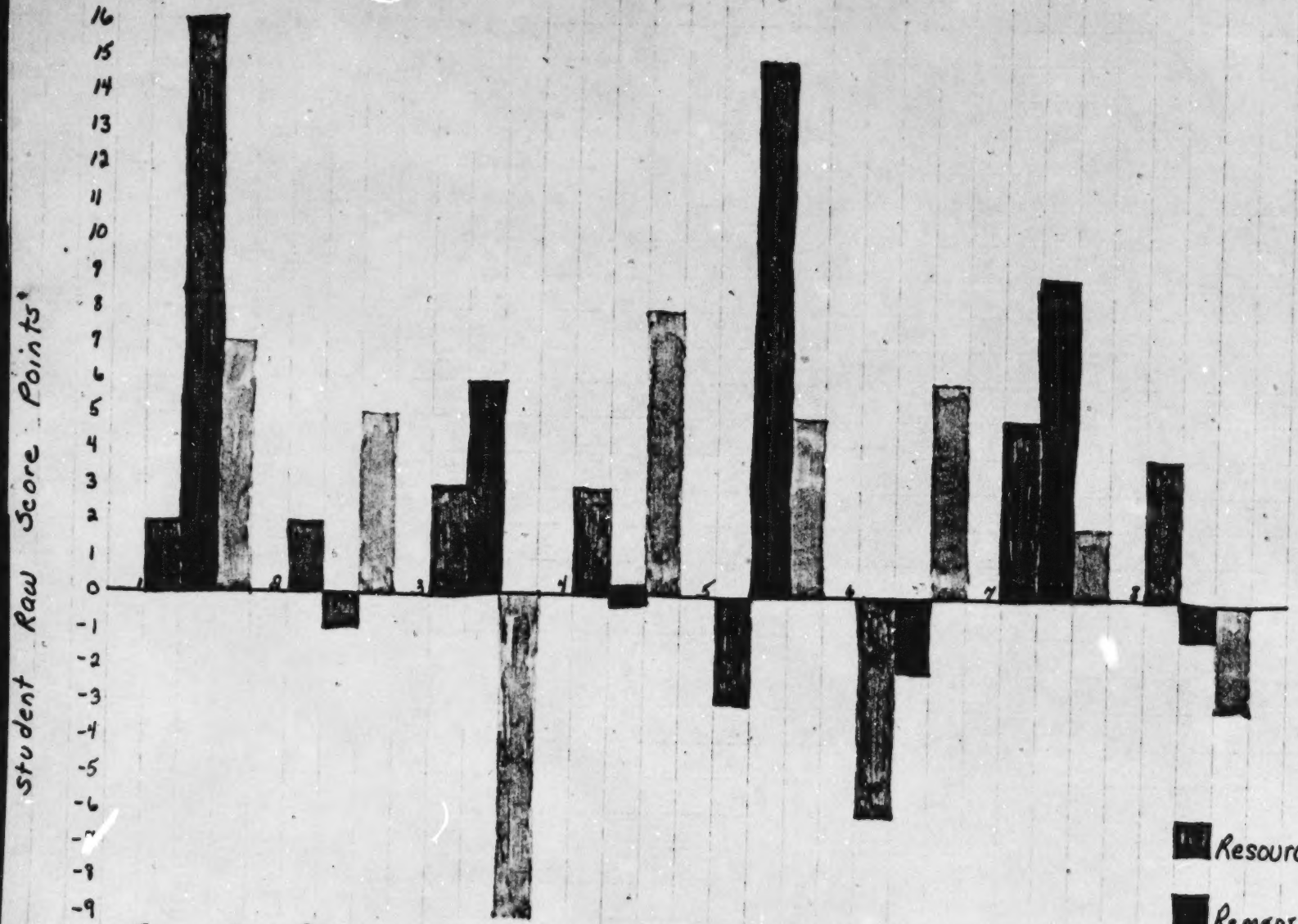

Figure 9- Difference Of Pre-test and Post-test Raw Scores Of Individuals - Woodcock Subtest Passage Comprehension

Chapter Five SUMMARY AND CONCLUSIONS

INTRODUCTION

A review of the entire research study is provided. In this chapter, a comparison of the results of the studies discussed in chapter two is also presented.

RESTATEMENT OF THE PROBLEM

A comparison of the reading achievement among classified students in three different types of reading programs was examined.

DESCRIPTION OF PROCEDURES USED

Twenty-four students were selected on the basis of previous testing and child study team recommendations to be a part of the total resource program. The students involved in this program were classified by a variety of handicaps. According to previous teacher and child study team recommendations as well as previous reading tests, the students were then placed into their respective reading programs.

The three types of programs offered at the middle school level are the reading program in the resource room, the remedial reading class, and the regular reading class. There were no unusual teaching procedures or materials utilized other than that which was expected for that particular class. A period of fifteen weeks elapsed between the pre-testing and the post-testing.

PRINCIPAL FINDINGS AND CONCLUSIONS

The findings of this study are in basic agreement with the

findings of the studies discussed in chapter two. The studies have shown that students who are mainstreamed into regular classes fare as well as their counterparts in the self-contained classes. The mainstreaming project has shown to be a positive asset in terms of the student's self image. The special education stigma is removed when the students can interact with each other and the mystique usually associated with special education students can be dismissed.

As was specifically pointed out in chapter two, the new mainstreaming law, PL 94-142, has encouraged this change from the traditional self-contained classes. The program upon which this study is based is a pilot program utilizing the major ideas of this new public law.

The findings of this research study are similar to those found in the work of Bennett and Ogletree, and the findings of Cartwright and McIntosh - where special education students made no real significant gains in either a self-contained or a regular classroom setting. Yet, the change in attitude of the teachers, peer groups, and the children themselves is what has become a focal point of this project and that is quite apparent to all concerned. Though no significant gains were made, the change in attitude alone has been a positive step in this area. One effect noted in this program, which was not expected, was that the teachers of the students involved, were better accepted by the rest of the academic faculty in the middle school. The students themselves are no longer stigmatized as being members of special education classes and ostracized by their peers. This, far above any of the academic gains made, has been extremely beneficial.

RECOMMENDATIONS FOR FURTHER RESEARCH

It is recommended that a more substantial number of students be included to allow for more stable measurements. Also, a longer period of time between the pre-testing and the post-testing period should be alloted. It is further recommended that a testing instrument which would include a finer degree of measurement be used. As this program is currently in its first year, the students involved in it have to deal with many new factors aside from their respective handicaps, i.e., changes from one teacher in a self-contained classroom to five separate teachers in a much more fluid, team-teaching type of situation. The program should be allowed to run for more time before any recommendations concerning its effectiveness are made.

SUMMARY

The testing instrument, the time alloted for the study, and the number of students involved, are the factors that should be noted in comparing this with previous studies. These factors may have contributed to the lack of significant results found in this particular study. It is recommended that more time for the entire program to work itself out be alloted, in order to better determine the effectiveness of the program.

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APPENDIX

RAW DATA FOR COMPUTATIONS

Resource Room Program

	Pre-test						Post-test					
Student	LI	WI	WA	WC	PC	Total	LI	WI	WA	WC	PC	Total
1	44	89	27	31	39	123	44	95	23	43	41	128
2	43	85	0	26	32	107	43	91	4	30	34	115
3	43	43	2	2	12	86	44	59	7	10	15	99
4	40	52	1	16	19	93	43	67	5	22	22	105
5	44	85	22	39	44	125	45	90	31	33	41	128
6	44	84	16	21	40	117	44	92	29	25	34	122
7	43	69	11	14	24	105	43	84	11	15	29	110
8	43	92	18	29	41	120	45	98	35	31	45	130

Remedial Reading Program

	Pre-test						Post-test					
Student	LI	WI	WA	WC	PC	Total	LI	WI	WA	WC	PC	Total
1	43	111	33	43	33	130	43	115	38	41	49	135
2	44	81	5	18	31	111	45	94	3	11	30	112
3	45	102	11	31	39	125	45	105	18	31	45	129
4	45	96	28	25	43	126	45	102	29	32	43	130
5	45	123	45	37	54	142	45	114	39	42	69	143
6	44	109	34	18	37	125	45	109	29	23	35	127
7	44	114	31	36	44	132	43	124	36	37	53	136
8	45	108	30	32	49	133	45	118	49	43	48	145

*(LI = Letter Identification)
(WI = Word Identification)
(WA = Word Attack)
(WC = Word Comprehension)
(PC = Passage Comprehension)

Regular Reading Program

	Pre-test						Post-test					
Student	LI	WI	WA	WC	PC	Total	LI	WI	WA	WC	PC	Total
1	45	99	21	25	29	123	45	95	29	27	36	126
2	45	114	40	33	46	136	45	116	41	37	51	139
3	45	121	39	28	46	136	45	116	45	36	37	137
4	44	130	37	22	42	133	45	138	41	27	50	141
5	45	121	45	28	60	141	44	130	46	31	65	143
6	41	97	13	14	39	114	44	101	18	32	45	126
7	45	128	42	25	63	141	44	132	41	36	65	143
8	45	130	40	46	60	146	45	132	38	52	57	147

Resource Room Group

Pre-test $M_x = \frac{\Sigma x}{N} = 109.5$

Post-test $M_y = \frac{\Sigma y}{N} = 117.1$

Pre-test $\sigma_x = \sqrt{\frac{\Sigma x^2}{N}} = 13.42$

Post-test $\sigma_y = \sqrt{\frac{\Sigma y^2}{N}} = 10.93$

$\sigma_{m_x} = \frac{\sigma_x}{\sqrt{N-1}} = 5.07$

$\sigma_{m_y} = \frac{\sigma_y}{\sqrt{N-1}} = 4.13$

$\sigma_{m_x - m_y} = \sqrt{(\sigma_{m_x})^2 + (\sigma_{m_y})^2} = 6.54$

$C.R. = \frac{M_x - M_y}{\sigma_{m_x - m_y}} = 1.16$

$P = .75$
$(.377 \times 2)$

Remedial Reading Group

Pre-test $M_x = \frac{\Sigma x}{N} = 128$

Post-test $M_y = \frac{\Sigma y}{N} = 125$

Pre-test $\sigma_x = \sqrt{\frac{\Sigma x^2}{N}} = 8.31$

Post-test $\sigma_y = \sqrt{\frac{\Sigma y^2}{N}} = 12.03$

$\sigma_{m_x} = \frac{\sigma_x}{\sqrt{N-1}} = 3.14$

$\sigma_{m_y} = \frac{\sigma_y}{\sqrt{N-1}} = 4.55$

$\sigma_{m_x - m_y} = \sqrt{(\sigma_{m_x})^2 + (\sigma_{m_y})^2} = 5.52$

$C.R. = \frac{M_x - M_y}{\sigma_{m_x - m_y}} = .54$

$P = .41$
$(.205 \times 2)$

Regular Reading Group

Pre-test $M_x = \frac{\Sigma x}{N} = 133.75$

Post-test $m_y = \frac{\Sigma y}{N} = 137.75$

Pre-test $\sigma x = \sqrt{\frac{\Sigma x^2}{N}} = 9.82$

Post-test

$\sigma y = \sqrt{\frac{\Sigma y^2}{N}} = 7.32$

$\sigma m_x = \frac{\sigma x}{\sqrt{N-1}} = 3.71$

$\sigma m_y = \frac{\sigma y}{\sqrt{N-1}} = 2.77$

$\sigma m_x - m_y = \sqrt{(\sigma m x)^2 + (\sigma m y)^2} = 4.63$

$C.R. = \frac{M x - m y}{\sigma m x - m y} = .86$

$P = .61$

$(.3051 \times 2)$

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